arities are of two kinds :—first, the annelid growth has determined outgrowth of the coral which has covered in the worm-tube ; and second, the establishment of some Hydrozoa on the ectoderm of the coral has sometimes produced the formation of tubes of coral-structure which environ the stalk of the offender and form a useful support to it.

Finally it may be remarked that all the Madreporaria which were brought up with the cable from off this area have an unusual ornamentation.

I have to thank Sir James Anderson for the specimens and for the details of the recovery of the cable.

MISCELLANEOUS.

On some Points in the Embryology of Annelids. By M. C. BARROIS.

THE investigations, of which I now give a summary, were made in the years 1873-76, and completed during the present year.

The first fact relates to the discovery of a new type, common at Roscoff during the month of April, which must be referred to the interesting group of the Gastrotricha. It possesses the form and general aspect of the Ichthydinæ ; but its skin is divided superficially into several segments furnished with incomplete ciliary circlets, which cause it to resemble the larva of an annelid. The digestive tube consists of three divisions, of which the first bears a very characteristic muscular pharyngeal inflation, which I have also met with in a small Syllidian, *Nerilla antennata*. The specimens were in full reproduction at the period when I collected them ; the genital organs form a series of glands, as in the Rhabdoceli. The sexes are separate : the males possess two testes, situated one to the right, the other to the left of the stomach, and which are followed by two seminal vesicles which pass to a single penis ; the female organs consist of two great masses, situated at the same part as the testes of the male ; and these ovarian masses, like the testes, are separated by a sort of dissepiment which divides the body of the animal into two parts.

Copulation occurs ; then the ova are deposited ; and in order to study them it is only necessary to collect them at the bottom of the vessel. The segmentation is like that of annelids generally : a gastrula is formed by epibolism ; then the internal mass is concentrated behind, while the anterior part becomes clear and the ventral surface thickens into an embryonic band ; the posterior fatty mass will form the stomach, the clear anterior part the œsophagus, and the embryonic band the muscular layer. The latter, the investigation of which would possess special interest, represents the

embryonic band of the Annelids in a still very rudimentary state. The remainder of the development is reduced to the formation of the oculiform points, a general elongation, the appearance of cilia, &c.

In the arrangement of the generative organs this species approaches the Turbellaria; the presence of its circlets of cilia and that of the embryonic band, on the other hand, approximate it to the group of Annelids; and among the latter, *Nerilla antennata* appears more particularly to approach it in the arrangement of the pharyngeal inflation, and also perhaps of the generative glands. Claparède has already described another type, also allied to the Annelids (*Hemidasys aguso*), but in its other relations rather approaching the Rotifera. We see, therefore, that the three groups of the Rotifera, Annelids, and Turbellaria become confounded at the base in the common trunk of the Gastrotricha; and the more particular analogies which the Syllidians possess with the latter (*Nerilla*) show that they must be placed at the base of the Annelids.

The embryogeny of the group Syllidea has been retarded by the strange nature of the mode of gestation, which has been taken by certain authors for a gemmation upon the parapodes. I have ascertained in a great number of species that there was never any thing in it in common with gemmation; the number of embryos fixed upon each [pair of] parapodes always corresponds exactly with the number of ova developed in each metamere; in those species which have only one embryo upon each parapode, we see in like manner only two ova in each metamere. I have traced the escape and the complete development of these ova. At a certain period of their development we see the vitelline membrane become confounded with the external integument of the embryo; the latter then appears to be fixed directly upon the parapode; and it is this that has led to the belief in gemmation. The most remarkable fact in the development of the ova thus fixed is the complete absence of any larval form; the relations of the Syllidea to the Gastrotricha allow us to suppose that this absence constitutes the primitive state, and that the state of larva (Trochosphere), afterwards so important, is only derivative. One is accustomed to regard the *vermiform state* of the embryos of Annelids (Oligochæta) as constituting a derivative state; and it is not uninteresting to remark that side by side with this *derivative vermiform state* (Oligochæta) there exists a *primitive vermiform state* (Syllidea), by means of which the embryogeny of the Chaetopods is related to that of the Gastrotricha and the inferior worms. In this state the embryonic band (too little known among the Chaetopods, in which I have constantly met with it) always exists, and still continues to form the essential fact of the development; it only begins to be reduced in the Roscoff type.

To these observations on the lower forms of embryogeny in the Annelids, I may add a few words on the higher forms, some of which have been too widely separated from the ordinary type: *Mitraria*, among others, may very well be brought back to the general type.

Thus I have several times found at Saint-Vaast a passage form in which the posterior half of the body was reduced by burying itself in the anterior part, which was margined at the base by the ciliary circlelet. This fact quite naturally leads us to regard the *Mitraria* as produced by the same process a little more strongly marked; the second period of development, in which Metschnikoff has seen the segmented body coming to form a more or less considerable hernia beyond the anterior parts, which at first covered it completely, would then be nothing but the inverse of the first, and a simple return to the normal form.—*Comptes Rendus*, July 30, 1877, p. 297.

On a new Genus of the Family Tritoniidæ. By M. A. VAYSSIÈRE.

Among the numerous Gasteropod Mollusca collected in the Gulf of Marseilles, I have observed a curious Tritoniid which I do not find described anywhere, and which certainly merits special mention. This animal was captured on the 26th April last, between Carry and Cape Méjeau, at a depth of 50 metres, on a muddy bottom, nearly at the limit of the coralligenous bottom.

It so much resembled some *Dendronoti* which I had received at the same time in its external aspect, in its size (7–8 centims.), and in its coloration, that I at first confounded it with them. When I perceived my error the animal was too much decomposed to allow a sketch of it to be made; nor could I completely examine its external characters: the anterior region of the integuments, however, was still in a pretty good state. But a dissection was sufficient to bring to light the important anatomical peculiarities which determine me to establish a new generic group for this mollusk.

I may be permitted to dedicate this new genus to my teacher, Prof. Marion, as a very feeble testimony of the gratitude I owe him for the constant kindness with which he directs me in my natural-history studies.

Genus MARIONIA.

Corpus elongatum, lateribus compressis, altius quam latius, pallio nullo. Caput subinferius, obtectum velo parvulo, ramoso; maxillis corneis. Stomachus cultriiformibus dentibus armatus. Tentacula duo dorsalia ramusculis tenuibus condensis superne cincta. Branchiæ ramosæ, linea unica utrinque dorsi insertæ. Orificia generationis et ani ad latus dextrum sita.

The general coloration of this mollusk was ochre-yellow, with numerous vinous spots. Its dendritic branchiæ were shorter and less divided than those of *Dendronotus*.

The tentacles, instead of presenting, as in the latter, towards their upper part a certain number of ridges and lamellæ, showed a mass of ramifications, very like much-attenuated branchiæ, pressed close together, and only allowing to project the terminal, much lessened